

<b>REASONED DOCUMENT PREPARED AFTER RECEIPT OF COMMENTS FROM M/S APOLLO INDUSTRIAL CORPORATION &amp; M/S DOLPHIN MANUFACTURING LTD. ON DRAFT SPECIFICATION OF HIGH EFFECTIVNESS LARGE AFTER COOLER</b>					
<b>SN</b>	<b>CORRESPONDING PART OF THE SPECIFICATION OF HIGH EFFECTIVNESS LAC BY ED DTE.</b>	<b>SUGGESTIONS RECEIVED FROM M/S APOLLO</b>	<b>SUGGESTIONS RECEIVED FROM M/S DOLPHIN MANUFACTURING LTD.</b>	<b>COMMENTS OF ED DTE.</b>	<b>REVISED CLAUSE IN SPECIFICATION</b>
1.	<p>Item 1. ii.b Special Commercial Condition :</p> <p>Heat Dissipation Test: Heat Dissipation Conformance Test and thermal effectiveness shall be carried out of one prototype sample of after cooler at firm's premises or any other government concerned institute in presence of RDSO representative. Performance shall meet the stipulated requirements.</p>	Heat Dissipation Test of heat transfer of large after cooler will not be done by M/S Apollo before dispatch		The suggestion has been agreed. This requires a specific set up with large amount of air flow which involves huge capital investment. This test can be easily done of ED Dte test bed.	Item 5.1 Technical Specification Performance of engine fitted with High effectiveness large after cooler shall be validated on the test bed of ALCO engine at Engine Development Directorate, Research Designs & Standards Organization (RDSO), Lucknow, India . Heat Dissipation Conformance Test and thermal effectiveness shall be carried out of prototype sample of after cooler on ED Dte test bed. Performance shall meet the stipulated requirements.
2.	<p>Item 2.1 Scope of Project :</p> <p>It is planned to design, develop and procure a prototype high effectiveness, large after cooler</p>	Firm is offering Aluminium alloy with plate and Fin type design	Firm is offering Cupro-Braze Material with Tube and Fin design	Both seem to be technically acceptable solutions to us therefore in order to	Item 2.1 Scope of Project It is planned to design, develop and procure a prototype high

	suitable for DLW built 16 cylinder 3100/3300/3600 HP AICo DLW engines of Indian Railways			bring flexibility, the design and material nomenclatures have been omitted in the specification. Functionally both will be similar. Material will be tested from M&C Lab/RDSO before clearing it for manufacturing of Prototype to test corrosion resistance.	effectiveness, large after cooler suitable for DLW built 16 cylinder 3100/3300/3600 HP AICo DLW engines of Indian Railways. Item 2.4 ( new addition) The material proposed by successful bidder will be cleared for manufacturing of prototype after its testing as per ASTM D-1384 in M&C Lab of RDSO.
3.	Item 3.a Diagram Plate and fin type after cooler			Plate & Fin Type nomenclature to be removed as discussed above.	After Cooler
4.	Item no. 3.c The after cooler material must be compatible to work with IR approved coolant HP Power KOOL RR with expected after cooler life of minimum twelve years. The material used for after cooler must be corrosion resistant for coolant Ph value from 8 to 13.	User sheds are required to use RDSO approved HP Power KOOL RR on water as specified by M/s Hindustan petroleum and regulate ph values 7 to 8( 3 % solution)		In MP specification for Cooling water Corrosion Inhibitor for ALCo Diesel Locomotives no. MP-2.99.00.03 (Rev-00) , it stated that Ph value of engine water to be maintained in between 7 to maximum 10, therefore it is decided to alter the ph Value for corrosion resistance of material slightly higher	The after cooler material must be compatible to work with IR approved coolant HP Power KOOL RR with expected after cooler life of minimum twelve years. The material used for after cooler must be corrosion resistant for coolant Ph value from 7 to 11.

				accordingly.	
5.	Item no. 4.3 Maximum water flow rate in after cooler is 890 l/m (approx).			As per ED Dte report no TR/ED/99/102 Annexure 50, Mass flow rate of water is maxm. 586.9 l/m (approx.).	Maximum water flow rate in after cooler is 586.9 l/m (approx.).
6.	Item no. 4.1 Mass flow rate of charge Air will be 4.5 kg/s,6.5 kg/s and 6.54 kg/s in 3100, 3300 and 3600 HP engine configurations respectively			As per ED Dte test bed latest readings Mass Flow rate of Charge Air will be Maximum 5.72 Kg/s for 16 cyl ALCo engine.	Mass Flow rate of Charge Air will be maximum 5.72 Kg/s.
7	Item 1.5 Qualifying credentials of tenderer. The tenderer can participate either individually or as a joint venture. For joint venture, extant rules of IR shall be applicable. (Enclosed as annexure.)			In order to avoid complications at TC stage this para has been omitted.	